[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2011-0961; Directorate Identifier 2011-NE-22-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Corporation Turboshaft Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Rolls-Royce Corporation (RRC) 250-C20, -C20B, and –C20R/2 turboshaft engines. This proposed AD was prompted by seven cases reported of released turbine blades and shrouds, which led to loss of power and engine in-flight shutdowns (IFSDs). This proposed AD would require a one-time visual inspection and fluorescent penetrant inspection (FPI) on certain 3rd and 4th stage turbine wheels for cracks in the turbine blades. We are proposing this AD to prevent failure of 3rd or 4th stage turbine wheel blades which could cause engine failure and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Rolls-Royce Corporation Customer Support, P.O. Box 420, Indianapolis, IN 46206-0420; phone: 888-255-4766 or 317-230-2720; fax: 317-230-3381, e-mail: helicoptercustsupp@rolls-royce.com, and website: www.rolls-royce.com. You may review copies of the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: John Tallarovic, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, 2300 E. Devon Ave., Des Plaines, IL 60018; phone: 847-294-8180; fax: 847-294-7834; e-mail: john.m.tallarovic@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2011-0961; Directorate Identifier 2011-NE-22-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all

comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We received reports of seven cases of released turbine blades and shrouds due to fatigue on certain RRC 250-C20, -C20B, and –C20R/2 turboshaft engines. These cases resulted in loss of power and engine IFSDs. This condition, if not corrected, could result in IFSDs. We are proposing a one-time visual and FPI on the 3rd stage turbine wheel, part number (P/N) 23065818, and on the 4th stage turbine wheel, P/N 23055944.

Since the original approval of these parts, speed avoidance restrictions have been established for these engines to prevent fatigue damage. In trying to identify the cause of this failure, RRC conducted an extensive product review. This product review determined the cause of the problem and instituted corrective actions. However, latent damage may still be present. Therefore, this unsafe condition may still exist.

Relevant Service Information

We reviewed RRC Alert Commercial Engine Bulletin (CEB) No. CEB-A-1407, Revision 1, dated February 7, 2011 and CEB-A-72-4098, Revision 1, dated February 7, 2011 (combined in one document). Alert CEB-A-1407 describes procedures for performing a one-time visual inspection and FPI on the 3rd stage turbine wheel, P/N 23065818, and on the 4th stage turbine wheel, P/N 23055944 for cracks in the turbine blades on the model 250-C20 and -C20B turboshaft engines. Alert CEB-A-72-4098 describes procedures for performing a one-time visual inspection and FPI on the 3rd stage

turbine wheel, P/N 23065818, and on the 4th stage turbine wheel, P/N 23055944 for cracks in the turbine blades on the model 250-C20R/2 turboshaft engine.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously.

Costs of Compliance

We estimate that this proposed AD would affect 500 RRC C250-C20, -C20B, and –C20R/2 turboshaft engines installed on aircraft of U.S. registry. We also estimate that it would take about 5 hours to perform a one-time visual inspection and FPI of the 3rd stage turbine wheel and the 4th stage turbine wheel for cracks in the turbine blades, for each engine. The average labor rate is $85 per work-hour. We anticipate no required parts cost. Based on these figures, we estimate the total cost of the AD to U.S. operators to be $212,500.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Rolls-Royce Corporation (Formerly Allison Engine Company and Allison Gas Turbine Division of General Motors): Docket No. FAA-2011-0961; Directorate Identifier 2011-NE-22-AD.

(a) **Comments Due Date**

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) **Affected ADs**

None.

(c) **Applicability**

This AD applies only to Rolls-Royce Corporation 250-C20, -C20B, and -C20R/2 turboshaft engines with 3rd stage turbine wheel, part number (P/N) 23065818, and 4th stage turbine wheel, P/N 23055944.

(d) **Unsafe Condition**

This AD was prompted by seven cases reported of released turbine blades and shrouds, which led to loss of power and engine in-flight shutdowns. We are issuing this AD to prevent failure of 3rd or 4th stage turbine wheel blades which could cause engine failure and damage to the airplane.

(e) **Compliance**

Comply with this AD within the compliance times specified, unless already done.

(1) Remove the 3rd stage turbine wheel, P/N 23065818, and the 4th stage turbine wheel, P/N 23055944, at the next 1,750-hour overhaul.

(2) Perform a one-time visual inspection and a fluorescent penetrant inspection on the 3rd and 4th stage turbine wheels for cracks at the trailing edge of the turbine blades near the fillet at the rim.

(3) If any cracks in the trailing edge near the rim are detected, do not return the wheel to service.

(f) **Alternative Methods of Compliance (AMOCs)**

The Manager, Chicago Aircraft Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

(g) **Related Information**

(1) For more information about this AD, contact John Tallarovic, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, 2300 E. Devon Ave., Des Plaines, IL 60018; phone: 847-294-8180; fax: 847-294-7834; e-mail: john.m.tallarovic@faa.gov.

(2) Rolls-Royce Corporation Alert Commercial Engine Bulletin No. CEB-A-1407, Revision 1, dated February 7, 2011 and CEB-A-72-4098, Revision 1, dated February 7, 2011 (combined in one document) pertain to the subject of this AD.

(3) For service information identified in this AD, contact Rolls-Royce Corporation Customer Support, P.O. Box 420, Indianapolis, IN 46206-0420; phone: 888-255-4766 or 317-230-2720; fax: 317- 230-3381; e-mail: helicoptercustsupp@rolls-royce.com, and website: www.rolls-royce.com. You may review copies of the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on December 14, 2011.

Thomas A. Boudreau,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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